Draft Management Plan for MacMillan Provincial Park

BC Parks

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MacMILLAN PROVINCIAL PARK

MASTER PLAN

March, 1990

Province of British Columbia
SOUTH COAST REGION

Ministry of Parks

MEMORANDUM

Mr. George Trachuk
Regional Director
South Coast Region

This Master Plan for MacMillan Provincial Park is submitted for your consideration and approval.

_____

M. H. Turner
Manager of Planning and
Conservation Services
South Coast Region

RECOMMENDED: _____ DATE: _____
Ron Lampard
District Manager
Strathcona District

APPROVED: _____ DATE: _____
George Trachuk
Regional Director
South Coast Region

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1.0 PLAN HIGHLIGHTS

The highlights of the master plan for the park include:

- The protection of the park's natural resources that contribute to the conservation of the virgin primeval forest.

- The presentation of the forest for its inspirational and educational value due to its provincial significance.

- The relocation of the parking area and the provision of associated sanitary, information and picnic facilities.

- The provision of a variety of trails to fulfil the park's role.

- The initiation of a comprehensive research program on all elements of the park's old growth forest and visitor impact.

2.0 INTRODUCTION

2.1 Plan Purpose

The purpose of this master plan is to guide all resource and visitor services decisions that will be made in the next five years and that will allow MacMillan Provincial Park to attain its full potential within the overall park system in British Columbia.

2.2 Background Summary

In 1944, H. R. MacMillan, a well-known forester, scholar, industrialist, philanthropist and sportsman, donated the 135 hectares of land for the perpetual enjoyment of the public in recognition of the unique stand of timber. Three years later, the area was established as a provincial park.

The park is established as Class 'A', Category 2, described as Schedule 'A'*, and is dedicated to the preservation of its particular natural environment for the inspiration, use and enjoyment of the public.

Similar in significance to the Muir Woods section of the California Redwoods, Cathedral Grove protects one of the few remaining representatives of the forest cover that was prevalent on the coast of British Columbia prior to the commencement of commercial forest harvesting.

Straddling the Cameron River and Highway 4, and lying almost equi-distant between Parksville and Port Alberni and enroute to Pacific Rim National Park, the park is world-renowned for the giant trees of Cathedral Grove and is visited by over 250,000 people annually.

* Category 2 "main purpose ... is the preservation and presentation to the public of specific features of scientific, historic, or scenic nature" (Park Act 12 [1] b).

  Schedule 'A' parks "dedicated to the preservation of their natural environments for the inspiration, use and enjoyment of the public" whose boundaries "shall not be affected except by an Act of the Legislature" (Park Act 5.5).

3.0 THE ROLE OF THE PARK

3.1 Provincial and Regional Context

MacMillan Provincial Park's old growth forest is a natural feature of national and international significance. Surrounded by other parks of provincial significance, fronting on Cameron Lake and bisected by several arms of the Cameron River (Figure 1), it is the giant trees of the Cathedral Grove section of the park that are unique and inspirational to the 250,000 people who annually visit the park and to the many who are simply satisfied knowing that the park exists.

A significant attraction to the many tourists visiting Vancouver Island, the park provides opportunities for walking and nature interpretation in this primal forest environment of trees that are mostly 300 to 400 years old including some which are over 800 years old.

3.2 Conservation Role

It is the primary role of the park to protect the natural resources that contribute to the conservation of the primal forest. Through this protection, these resources can be studied to determine the dynamics of this type of coastal forest and to recommend management practices to further the conservation role of the park in the British Columbia park system.

3.3 Recreation Role

Through recognition of the conservation role, it is also a role of the park to present the old growth forest for its inspirational and educational value. This presentation will be accomplished through the visitor services program and will include providing development in the park that complements the conservation role.

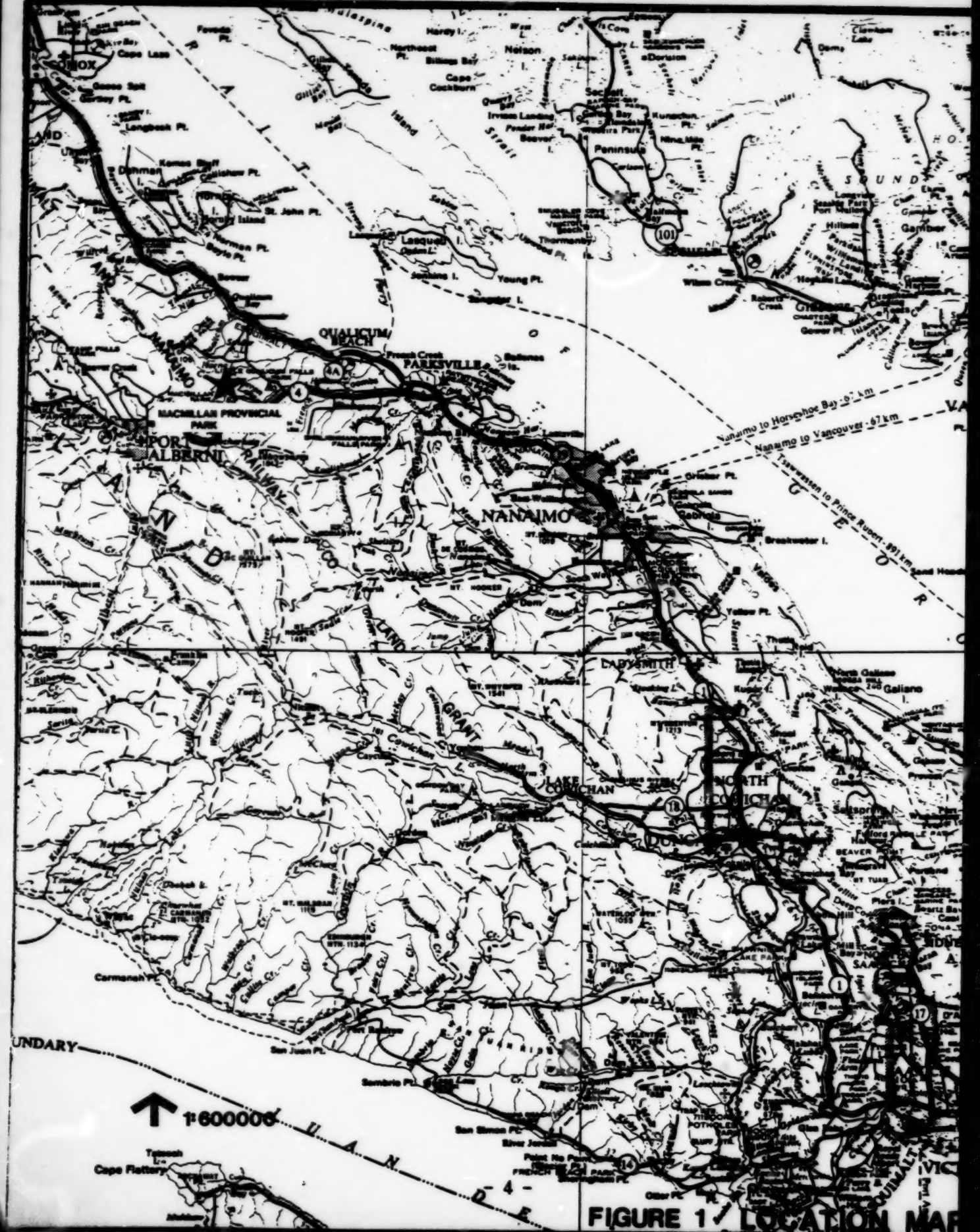


FIGURE 1 LOCATION MAP

4.0 ZONING

Zoning is a procedure used to assist the planning and management of Park Act designations by dividing each park into logical land and water units based upon uniform and consistent management objectives. The zones reflect the intended land use, the level of management and development required and, thus, the level of human activity to be accommodated.

In this master plan, three zones: Intensive Recreation, Natural Environment and Special Features have been designated as follows:

Intensive Recreation Zone

The objective of this zone is to provide for a variety of readily accessible, facility-oriented outdoor recreation opportunities in areas where use levels are high and the site is intensively developed. This zone is applied to MacMillan Provincial Park in such a way as to retain the outstanding natural resources features, the old growth forest, in a natural state. Park management will emphasize the maintenance of a high quality recreation experience. This zone is applied to the southern park boundary. In order to remove the hazardous parking from the highway, a parking lot will be developed in this area, along with suitable information, picnic and sanitary facilities.

Natural Environment Zone

The objective of this zone is to act as a backdrop and buffer for the Special Feature Zone of Cathedral Grove. Use levels in this zone will be low with the exception of the main trail connecting the parking area with Cathedral Grove. The park management emphasis is on maintaining the natural environment.

Special Features Zone

This zone includes all of the old growth coastal forest generally recognized as Cathedral Grove. Within this zone, the evolutionary concept of vegetation management (i.e. let nature take its course) will prevail and, where public use will not impair the grove, trail access and information will be provided.

Figure 2 shows the zoning plan for the park.

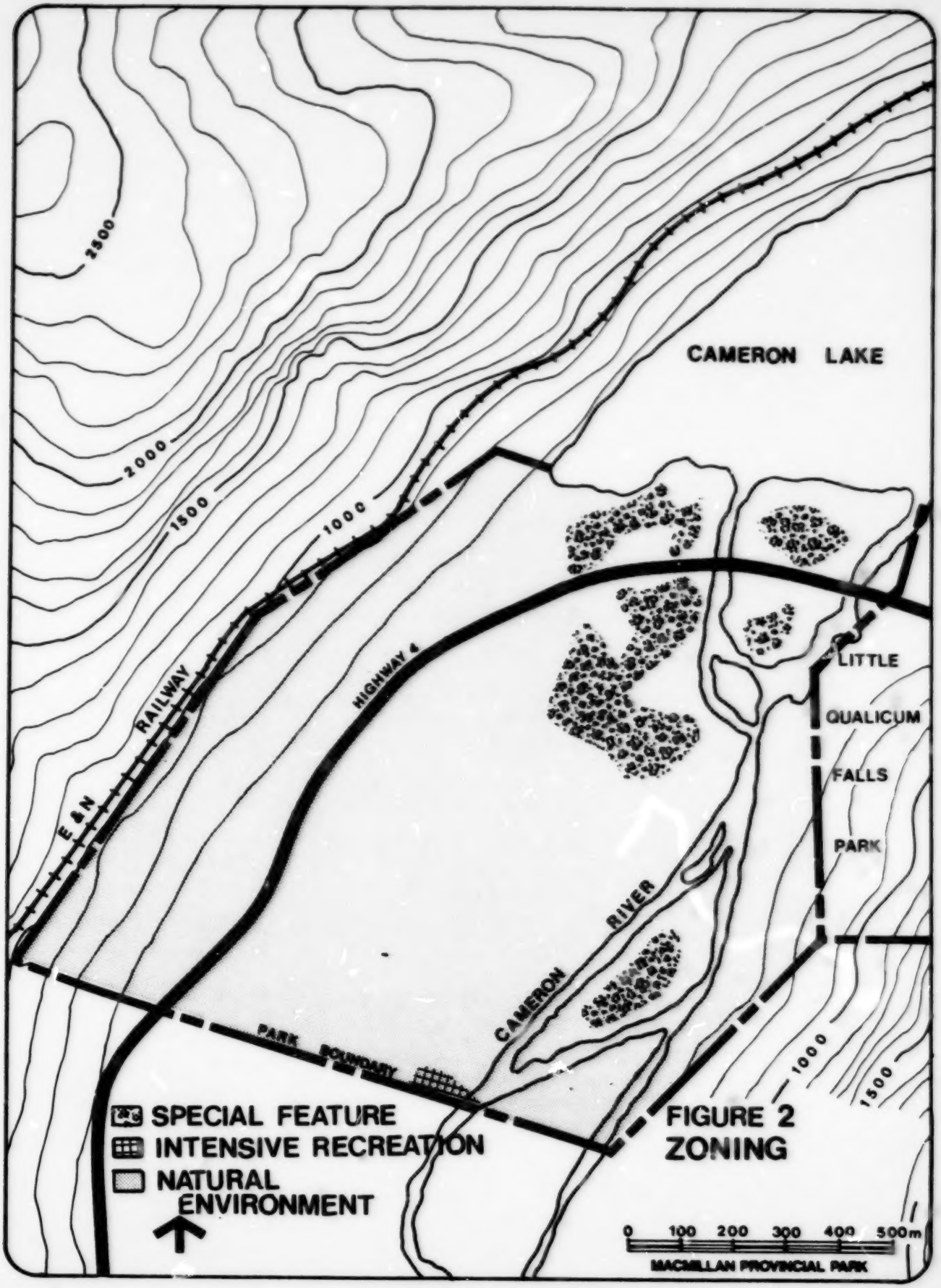


FIGURE 2
ZONING

5.0 NATURAL AND CULTURAL RESOURCES MANAGEMENT

5.1 Introduction

The overall management of resources will be based upon the Park Act, Park Regulations and ministry and division policies and the role of the park in the overall system of provincial parks and recreation areas.

The resource management objective is to ensure that BC Parks' goals are met by:

- protecting the natural resources of the park;
- monitoring use impacts and resource conditions so that appropriate actions may be taken; and
- establishing resource guidelines that will protect the park's recreation and conservation resources.

5.2 Management Objectives/Actions/Policies

5.2.1 Land Management/Boundaries

MacMillan Provincial Park occupies only 30% of the area many people associate as park land as they drive on Highway 4 from Cameron Lake to Port Alberni. The remaining land is owned by MacMillan Bloedel Ltd.

Objective: To study and identify that area of MacMillan Bloedel Ltd.'s land that is essential to maintaining the role of the park.

As part of the research program, ensure external impacts are minimized.

Action: Conduct a study to determine those areas that are essential to the role of the park and initiate discussions with MacMillan Bloedel Ltd. to acquire the proposed access and staging areas (Figure 3).

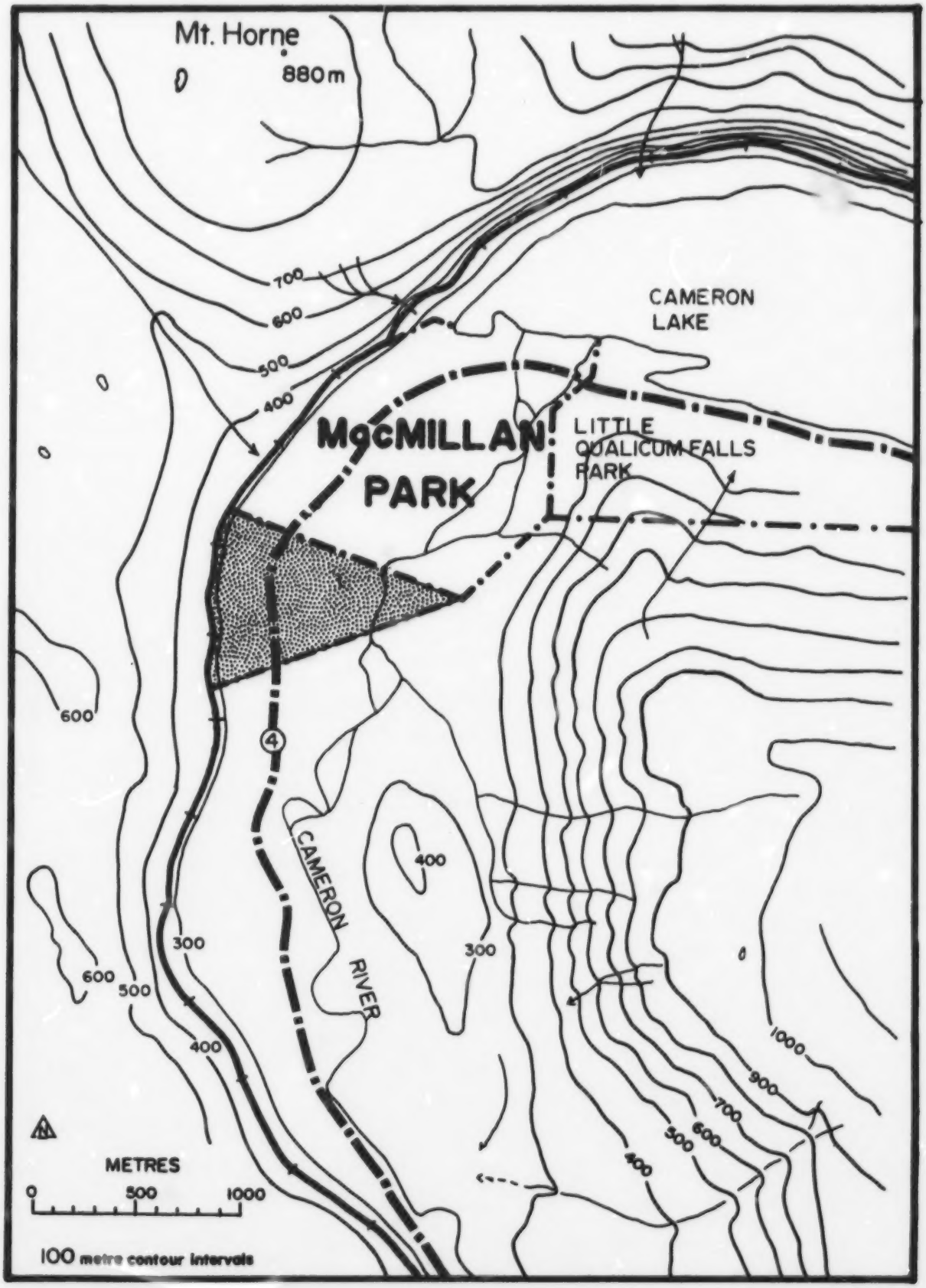


Figure 3

Proposed Acquisition

5.2.2 Water Management

The Cameron River is the main water body in the park. As with most rivers, it has erosional capability that could threaten the most significant forest features.

Objective: To ensure the river stays in its channels and does not threaten Cathedral Grove.

Actions: Within the park, the river will be monitored and appropriate action will be taken.

Upstream resource developments that could contribute significantly to changes in the Cameron River will be reviewed as they are proposed. Those developments that would adversely affect the park will be opposed.

5.2.3 Vegetation Management

Little is understood of old growth stand dynamics in this area. Consequently, various opinions on management actions centring on soil, understorey and silvicultural enhancement abound within the overall context of protecting the stand.

Objective: To determine the present health of the stand and recommend practices, if any, to improve the health and to protect the stand from any actions that will reduce its longevity.

Actions: Conduct research associated with furthering knowledge of stand dynamics, visitor impacts, stand health and identify potential external impacts.

Permit natural processes to proceed until adequate research has been completed.

5.2.4 Fish and Wildlife Management

MacMillan Provincial Park includes an example of the wildlife ecosystem characteristic of the old growth Douglas-fir forest which once covered much of Vancouver Island. Thus, the park plays an important role in the preservation of that wildlife ecosystem.

MACMILLAN PROVINCIAL PARK

Objective: To preserve an example of the wildlife ecosystem characteristic of old growth Douglas-fir forest.

Actions:

- Identify the wildlife species characteristic of valley bottom old growth Douglas-fir forests.
- Conduct a wildlife inventory in the park to determine whether the park currently supports the species expected.
- Identify measures to rebuild populations of wildlife species which require preservation in the park.
- Identify factors within and outside of the park which could damage the wildlife.
- Identify measures that counteract the damage factors to ensure preservation of the wildlife.
- Maintain the current hunting closure.

5.2.5 Visual Resources Management

The private forest land adjacent to the park boundaries requires visual management that ensures adequate buffering and screening of these views.

Objective: To maintain visual screening of the adjacent private forest lands.

Action: Initiate discussions with MacMillan Bloedel Ltd. to minimize the impact on the visual resource associated with harvesting on adjacent lands.

5.2.6 Cultural Resources Management

The lack of significant cultural resources dictates that no management action is necessary.

6.0 VISITOR SERVICES

6.1 Introduction

For a park of such international renown and significance, the existing services provided to the visitor are best described as primitive.

Within the overall role of protecting the natural resources that contribute to the conservation of this primeval forest, it is the general visitor services concept to provide safe and adequate access to the unique features of the main grove for park visitors.

In addition to this access, complementary and ancillary facilities for picnicking, viewing, strolling and interpretation are required to fulfil the special conservation and recreation roles.

6.2 Visitor Opportunities

a) Auto Access Sightseeing and Destination

Auto access and associated sightseeing will be restricted to Highway 4 and the developed parking area.

Objective: In conjunction with the Ministry of Transportation and Highways, maintain the pleasant park-like drive through the grove.

Action: Discuss maintenance standards of Highway 4 through the park with the Ministry of Transportation and Highways.

b) Day Use

For many visitors, a visit to MacMillan Provincial Park is more than viewing the grove. Picnicking, strolling, nature interpretation and some fishing occur in conjunction with the viewing.

Objective: To encourage those activities that complement and enhance the park's role.

Action: Develop parking, picnic, sanitary and information facilities adjacent to the Cameron River and associated interpretive trails to link up with the existing developed trails in Cathedral Grove and the existing Cedar Trail north of Highway 4 via a bridge underpass. A shorter loop trail will provide access for those visitors not willing or able to see the grove (Figure 4).

c) **Information and Interpretation**

MacMillan Provincial Park's old growth forest and its location at the gateway to Port Alberni and Pacific Rim National Park both give an excellent opportunity to provide information related to resource, conservation and recreation choices.

Objective: To provide information on old growth forests as well as park and recreation opportunities on Vancouver Island.

Action: Through development of the trail program and information packages such as on-site signage, hosts and brochures, inform the visitor of the recreation and conservation role of MacMillan Provincial and other areas.

6.3 Management Services

6.3.1 Headquarters and Service Yards

MacMillan Provincial Park will continue to be managed from Little Qualicum Falls Provincial Park.

6.3.2 Site and Facility Design Standards

All designs will reflect site preservation and meet park standards. Attention will be paid to safety, visual values and operational efficiency.

6.3.3 Safety and Health

The old growth forest presents concerns from tree failure. All designs will consider this risk and its impact on the safety and health of both the vegetation resources and the park visitor.

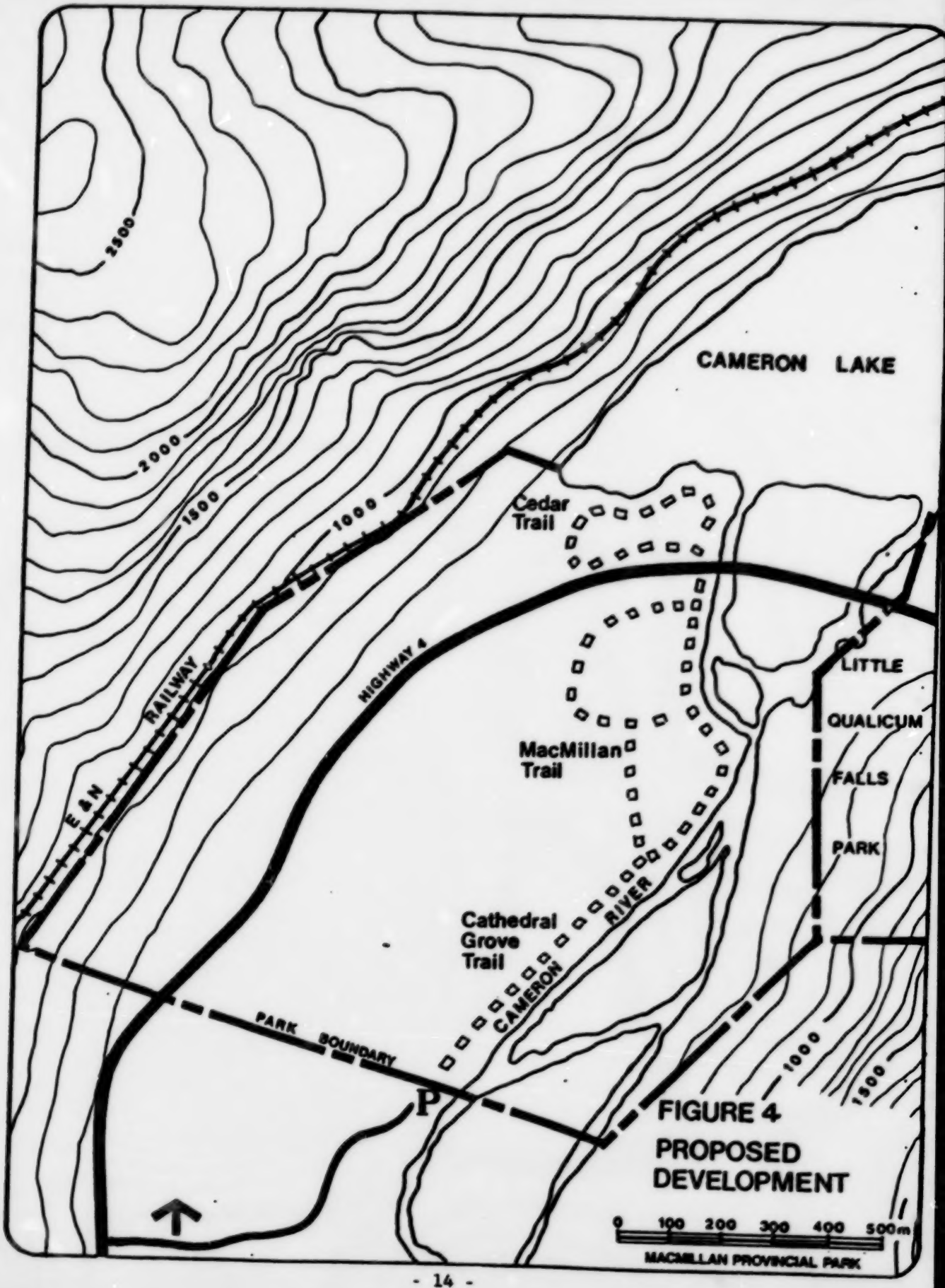


FIGURE 4
PROPOSED DEVELOPMENT

6.4 Promotion and Information Program

MacMillan Provincial Park is one of the prime destination parks in the provincial park system. Due to its impressive resources, marketing of the park has been ambitiously undertaken by government agencies as well as the local chambers of commerce and their members. As such, further specific park marketing is not required, although because of its international significance, MacMillan Provincial Park should be part of an overall program to publicize British Columbia's provincial parks.

With an annual visitation exceeding 250,000 persons, the information program will be one of the most important contributions to the provincial park system. While the primary objective of the park's information program will be to interpret the park and its giant trees, the program's second objective will be to expand the public's knowledge of the provincial park system, including the agency's role in managing and protecting BC Parks' natural and historical resources while providing opportunities for outdoor recreation.

This program will be implemented through joint cooperation with other groups, the development of a self-guiding trail system using printed materials, on-site signs and interpretive staff providing information about the creation and history of the park, the parks and recreation opportunities east and west and information about the ecology of the site as a prime environment for Douglas-fir.

7.0 PLAN IMPLEMENTATION

In order for MacMillan Provincial Park to achieve its full potential, several actions must be taken. These actions are outlined in two phases:

Phase 1

1. Acquire and develop proposed access, sanitary and information facilities.

2. Develop Cathedral Grove Trail, linking the staging area with the existing trail system and shorter loop trail.

3. Initiate research on old growth stand dynamics.

Phase 2

1. Monitor Cameron River for erosion potential.

2. Initiate research on wildlife species in the park.

APPENDIX 1

BACKGROUND REPORT

1.0 INTRODUCTION

MacMillan Provincial Park is a striking natural feature of national and international significance. Surrounded by other parks of provincial significance, fronting on Cameron Lake and bisected by several arms of the Cameron River, it is the giant trees of the Cathedral Grove section of the park that are unique and inspirational to the 250,000 people who annually visit the park and to the many who are simply satisfied knowing that the park exists.

A significant attraction to the many tourists visiting Vancouver Island, the park provides opportunities for walking and nature interpretation in this primal forest environment of trees that are mostly 300 to 400 years old including some which are over 800 years old.

In 1944, H. R. MacMillan, a well-known forester, scholar, industrialist, philanthropist and sportsman, donated the 135 hectares of land for the perpetual enjoyment of the public in recognition of the unique stand of timber. Three years later, the area was established as a provincial park.

Similar in significance to the Muir Woods section of the California Redwoods, Cathedral Grove protects one of the few remaining representatives of the forest cover that was prevalent on the coast of British Columbia prior to the commencement of commercial forest harvesting.

2.0 NATURAL AND CULTURAL RESOURCES

2.1 Natural Resources

2.1.1 Natural Region/Regional Landscape

MacMillan Provincial Park lies within the Insular Mountains Natural Region and represents a valley component of the Vancouver Island Mountains Regional Landscape.

2.1.2 Climate

The regional climate of the slopes of east Vancouver Island is described as drier Cfb (a mesothermal climate with no distinct dry season and temperature of the warmest month below 22°C). The characteristic feature of this climate is low precipitation during the growing season. The park represents a climatic transition between a wetter Csb (mesothermal, summer is dry, with at least three times as much rain in the wettest month of winter as in the driest month in the summer, precipitation of the driest month of summer less than 3 cm, and mean monthly temperature of the warmest month below 22°C) and a drier Csb climate. This climatic data for the park and the region is presented in Table 1.

2.1.3 Physiography

The major feature of the Vancouver Island Ranges in the area surrounding MacMillan Provincial Park is the narrow northwest-tending range of mountains, including the Beaufort Range and Mount Arrowsmith (1,617 m).

The most striking glacial erosion feature in the area of the park is the U-shaped Cameron Valley (Figure 5). The valley had no tributary from which mountain glaciers formed. Instead, ice moved southwest across the Beaufort Range through Cameron Valley from the Georgia Depression toward Alberni Valley. Cameron Lake lies in a rock-cut basin.

TABLE 1

Selected Climatic Data for MacMillan Park and the East Vancouver Island Drier Maritime Coastal Hemlock Biogeoclimatic Variant

Climatic Parameter	Predicted Values for MacMillan Park	Mean Values for East Vancouver Island Drier Maritime Coastal Western Hemlock Biogeoclimatic Variant
Climate (Koppen/Trewartha)	Wetter Csb	Drier Cfb
Mean Annual Precipitation [mm]	1690	2060
Mean Precipitation of Driest Month [mm]	28	36
Mean Precipitation of Wettest Month [mm]	277	347
Mean Precipitation Apr to Sept [mm]	340	404
Mean Annual Temperature (°C)	8.3	8.7
Mean Temperature of the Warmest Month (°C)	17.0	16.8
Mean Temperature of the Coldest Month (°C)	-0.1	0.9
Number of Months With Mean Temperature Over 10°C	5.4	5.0
Number of Months With Mean Temperature Below 0°C	1.1	0.0
Index of Continentality	18	15

From Ecosystems of MacMillan Park on Vancouver Island

The park is predominantly flat and is situated approximately 200 m above sea level. Its western and eastern limits feature steep slopes with a gradient approaching 50 percent and, occasionally, more. Cameron River is a low gradient river forming an alluvial floodplain in the park.

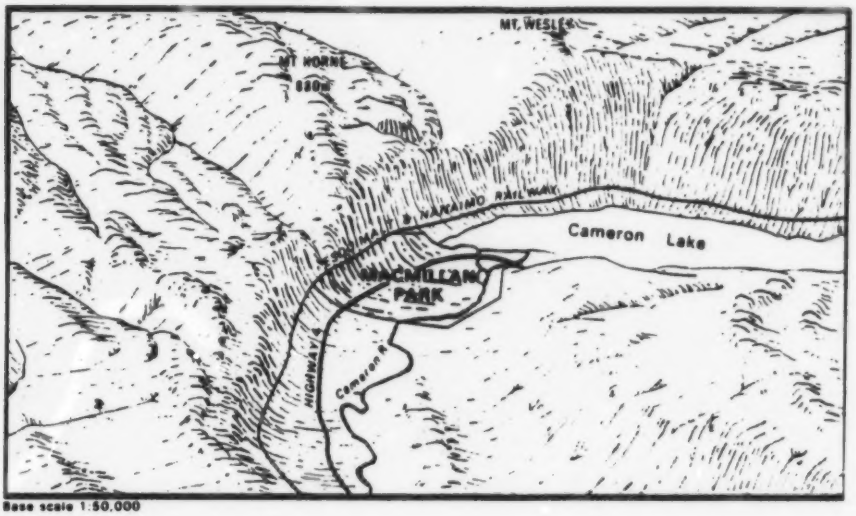


FIGURE 5: Block diagram illustrating physiographic features of MacMillan Park and surrounding area from Ecosystems of MacMillan Park on Vancouver Island

2.1.4 Soils

Postglacial events caused the majority of soil formation to begin from alluvial and colluvial surficial deposits instead of materials deposited by the ice action. These deposits influence the soil development mainly through their texture, coarse fragment content, consistency and mineralogy. Alluvial and colluvial materials derived from volcanic rocks (mainly basalts) are predominant; surface deposits of morainal and lacustrine materials are limited in their extent.

Alluvial materials are mostly over one metre thick and vary in particle size from sandy-skeletal to fine-clayey, with loamy-skeletal and fine-loamy classes being predominant. They comprise a series of terraces formed by deposition of materials transported by Cameron River. Toward Cameron Lake, the alluvial materials become gradually finer as the coarse fragments decrease and, in the proximity of Cameron Lake, they overlie compacted layers of lacustrine materials.

The colluvial materials are loam-skeletal with a high proportion of the coarse fragments being stones. On the lower slopes, the colluvial forms a blanket greater than one metre thick, whereas on the middle slopes it is less than one metre thick forming a veneer over bedrock or morainal materials. The colluvium is subject to creep (very slow, downslope movement), local wash and minor mass wasting. Occasionally, bedrock outcrops are found on the middle slopes among colluvial materials.

2.1.5 Water

Cameron River is the force of greatest influence in changing the park's landscape. Its many current channels feed nutrients and silts through the floodplain. Former channels, still visible in the forested area, are evidence of past influences on soils and water distribution. In times of high water during the spring run-off, many of the old channels fill. In this way, they continue to contribute to the transport of water and to soil building within the floodplain.

Upstream from the park, large acreages of old growth forest have been harvested. This has resulted in a much lower interception of run-off water, faster flooding and accelerated erosional channel development. As new trees and shrubs repopulate the land, over a long period the run-off rates will become less and the downstream channel gouging will decrease.

2.1.6 Vegetation

Cathedral Grove's appeal stems from the size (some trees are over 80 m high) and the age of the stand (mostly 300 to 400 years but some Douglas-fir are over 800 years old).

Trees are the most obvious element of a forest ecosystem, but for all their prominence, they are no more important than the other elements, each of which contributes to the existence of the plant community. For example, soil structure, its chemical composition together with water quality, macro and micro climates, is a vital element in the mix of ingredients which provide the conditions for plant growth. When all conditions are in the correct dynamic relationship, extraordinary growth results. MacMillan Provincial Park is one of these rare places. The forests here have reached their impressive size not only by having the correct conditions for growth, but also by being located on a wet valley floodplain, protected in part, from fire and severe coastal storms.

Plant Associations

Ten distinct plant associations have been identified within MacMillan Provincial Park. Table 2 lists each of these major associations. The Ecosystems of MacMillan Park exhibit a map of these associations and their relative recreation significance. Figure 6 shows the areas of highest recreational value based on species diversity, dominance of large trees and low shrub cover as well as the tallest and biggest trees.

2.1.7 Wildlife

No specific wildlife data exists for the park. Since it has a relatively small area, resident mammals would be restricted to the smaller species. Larger mammals, Coast Blacktail deer, black bear, cougar and wolf, may use the park in travelling through to their territories. Several species

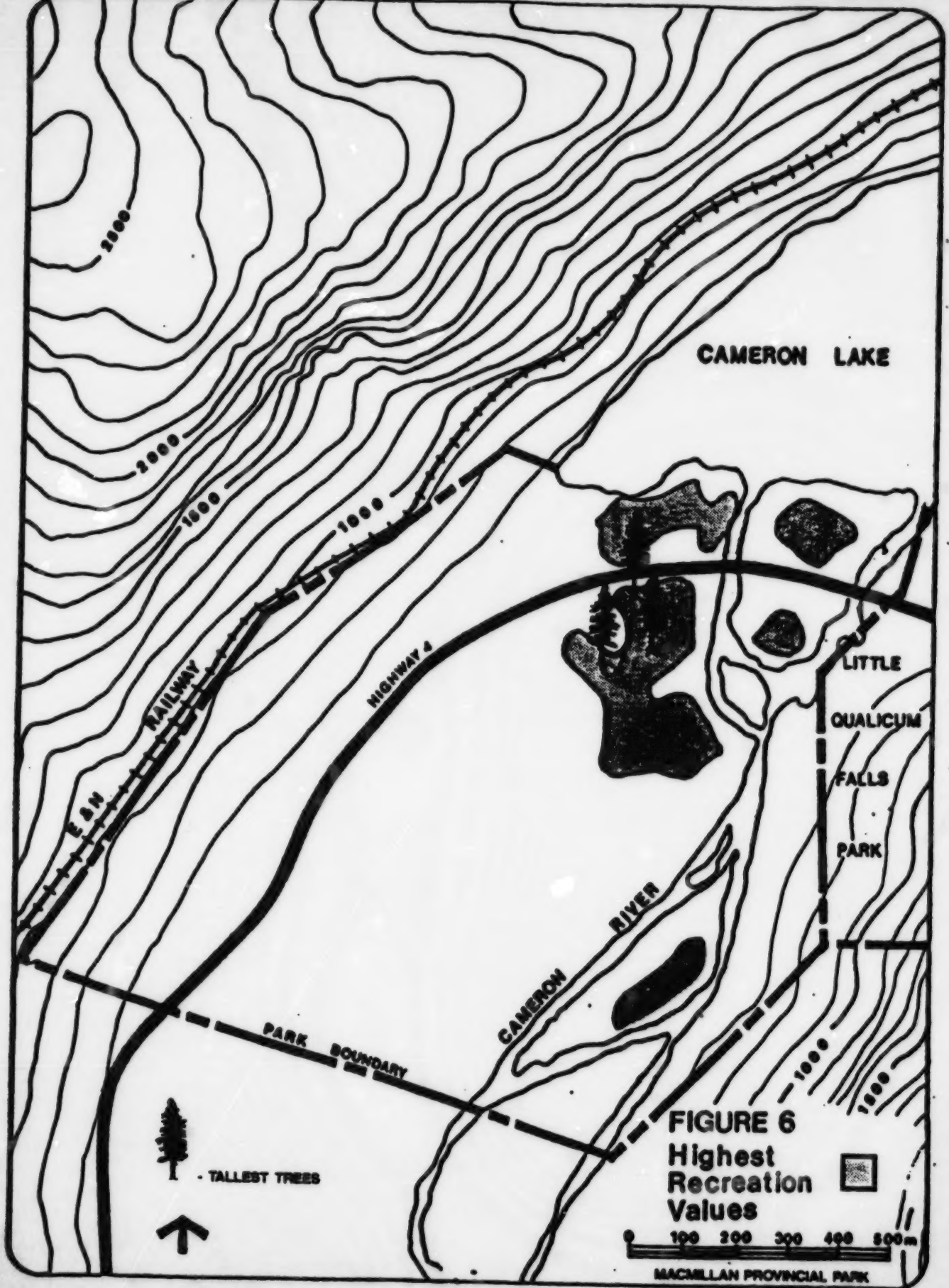
TABLE 2

PLANT ASSOCIATIONS

Biogeocoenotic association	Biogeocoenotic type[1]
1. Sword Fern - Oregon Grape - (Broadleaf Maple) & Douglas-fir - Western Redcedar	11. Sword Fern - Oregon Grape - (Broadleaf Maple) & Douglas-fir - Western Redcedar on Loamy-Skeletal Orthic Dystric Brunisol with Mormoder on Colluvial Blanket
	12. Sword Fern - Oregon Grape - (Broadleaf Maple) & Douglas-fir - Western Redcedar on Loamy-Skeletal Orthic Humo-Ferric Podzol, Mini Phase with Mormoder on Alluvial Terrace
2. Vanilla Leaf - Sword Fern - Douglas-fir Western Redcedar	21. Vanilla Leaf - Sword Fern - Douglas-fir - Western Redcedar on Loamy-Skeletal Orthic Humo-Ferric Podzol, Mini or Sombric Phase with Mormoder on Colluvial Blanket
	22. Vanilla Leaf - Sword Fern - Douglas-fir - Western Redcedar on Fine-Loamy Orthic Humo-Ferric Podzol, Sombric Phase, with Mormoder on Alluvial Terrace
3. Foamflower - Sword Fern - Douglas-fir - Grand Fir & Western Redcedar	31. Foamflower - Sword Fern - Douglas-fir - Grand fir and Western Redcedar on Loamy-Skeletal Orthic Humo-Ferric Podzol, Sombric Phase, with Vermimull on Alluvial Terrace
	32. Foamflower - Sword Fern - Douglas-fir - Grand fir and Western Redcedar on Fine-Loamy Orthic Humo-Ferric Podzol, Sombric Phase, with Mormoder on Alluvial Terrace
	33. Foamflower - Sword Fern - Douglas-fir - Grand fir and Western Redcedar on Fine-Loamy Orthic Humo-Ferric Podzol, Sombric Phase, with Vermimull on Alluvial Terrace
4. Maidenhair Fern - (Oak Fern) & Sword Fern Grand Fir & Western Redcedar	41. Maidenhair Fern - (Oak Fern) - Grand Fir & Western Redcedar on Loamy-Skeletal Sombric Humo-Ferric Podzol with Mullmoder on Colluvial Blanket
	42. Maidenhair Fern - (Oak Fern) & Sword Fern - Grand Fir & Western Redcedar on Loamy-Skeletal Sombric Brunisol with Vermimull on Alluvial Terrace or Floodplain
5. Enchanter's Nightshade - Salmonberry - (Western Redcedar) - Broadleaf Maple & Red Alder	51. Enchanter's Nightshade - Salmonberry - (Western Redcedar) - Broadleaf Maple & Red Alder on Loamy-Skeletal Orthic Regosol on Alluvial Floodplain
6. Lady Fern - Devil's Club - (Grand Fir) & Western Redcedar	61. Lady Fern - Devil's Club - (Grand Fir) & Western Redcedar on Loamy-Skeletal Orthic Humic Regosol with Vermimull on Alluvial Floodplain
7. Lady Fern - Skunk Cabbage - Western Redcedar	71. Lady Fern - Skunk Cabbage - Western Redcedar on Fine-Clayey Sombric Humo-Ferric Podzol, Gleyed Phase with Vermimull on Alluvial/Lacustrine Terrace
8. Skunk Cabbage - Red-osier Dogwood - Western Redcedar & Red Alder[2]	
9. Meadow Horsetail - Slough Sedge - Red Alder - Pacific & Sitka Willow[2]	
10. Pacific Oenanthe - Sedge[2]	

[1] Associations may be divided into types based on properties that control soil moisture and nutrient regime.

[2] A tentative association, not adequately sampled and studied.


CAMERON LAKE
LITTLE
QUALICUM
FALLS
PARK
HIGHWAY 4
RAILWAY
E & N
CAMERON RIVER
PARK BOUNDARY
- TALLEST TREES
1000
2000
3000
FIGURE 6
Highest
Recreation
Values
0 100 200 300 400 500m
MACMILLAN PROVINCIAL PARK

of birds are known to use the park for food and shelter. For example, the woodpeckers - Hairy, Downy, Pileated and Flicker - are dependent upon snags for food and nest sites.

The portion of Cameron River in the park naturally supports a small Rainbow, Brown and Cutthroat trout fishery.

2.2 Cultural Resources

2.2.1 Archaeological

There are no known archaeological values in the park.

2.2.2 Historic

There are no provincially significant historic resources in the park; of minor interest is the early trail access from Parksville across the height of land and leading to the Alberni Canal. This route later became a road and a portion of it is now part of provincial Highway 4. The remaining portion provides access to cabins on Cameron Lake.

The Canadian Overseas Telecommunication Corporation 1961 cable to the south Pacific passes through the northwest side of the park between Highway 4 and the E & N Railway grade.

2.3 Visual Resources

MacMillan Provincial Park's visual resources are focused on intimate forest areas rather than on broad sweeping views of larger landscapes.

Three main categories of visual resources can be identified in the context of this park:

a) Visual impressions of Cathedral Grove related to the scale of man's development. This includes scale provided by provincial Highway 4, cars, buses and parking lot facilities inside the right-of-way and park facilities, signs, toilet buildings and trails within the park.

b) Visual impressions of the trees related to visitor use of the trails with scale provided by the internal structure of the forest, such as fallen logs, smaller trees, shrubs and ground cover plant species. These resources have the most potential for providing the visitor with feelings of reverence and awe of nature - the experience of Cathedral Grove.

c) Visual resources associated with water bodies are integral with other park values. The impressions which visitors gain by walking the Cameron River Trail and by following the Cameron Lake Trail north of the highway are visual elements of the visitor experience.

Visual values are not so much expressed by the impressive size of single trees but, rather, are found in the collective impressions gained by seeing and feeling the presence of large trees in stands and in association with other smaller plants.

The trail system which conducts visitors through changing views of the forest, often of the same stands of large trees, is the vehicle for the visitor's experience. This visual "conduit" is the key to park values.

2.4 Analysis

Resource	Opportunities	Constraints
Climatic	Moderate temperatures promote year round use	None
Physiographic	Diversity of valley soils	Soil compaction can adversely affect health of stand
Water	Cameron River and Cameron Lake act as secondary foci	Stream erosion can affect stand
Vegetation	Plant associations provide variety of park opportunities	Any management actions must be directed at stand protection
Wildlife	Minor visibility of species	None
Cultural	Presentation of donor's contribution	None
Scenic	Vegetation and water resources contribute significantly	None

3.0 TENURES, OCCUPANCY RIGHTS AND JURISDICTIONS

MacMillan Provincial Park (Figure 7) is bisected by Highway 4, a 100-foot highway right-of-way connecting Port Alberni with Highway 19 at Parksville. Two park use permits have been issued for communication purposes. There are no other alienations.

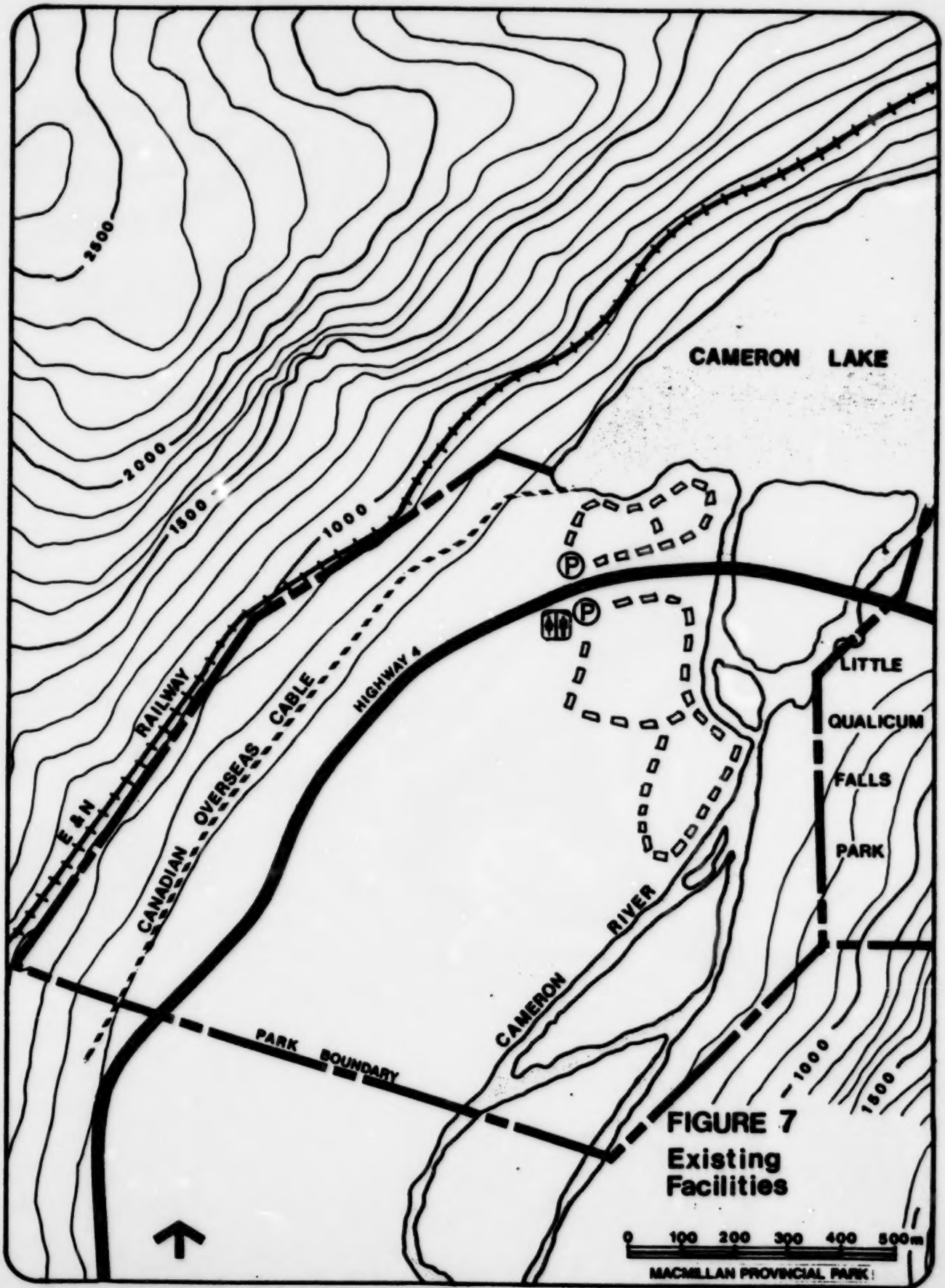


FIGURE 7
Existing Facilities

4.0 RECREATION OPPORTUNITIES

Although the park and its features are internationally significant, the existing park facilities are best described as primitive (Figure 7).

Parking occurs in an unorganized manner in two areas immediately adjacent to Highway 4. Two loop trails, providing a variety of walking times and leading past the largest species have been developed in the grove on both sides of the highway. Sanitary facilities consist of pit toilets and rudimentary information facilities associated with the parking areas point out features in the park.

Upgrading of all these facilities to reflect the significance of the park is necessary.

5.0 MARKET ANALYSIS

5.1 Existing Use

From data gathered from 1978 to the present, use in MacMillan Provincial Park has approximated 250,000 persons annually. Of these, 220,000 walk the trails, while the remainder simply pull over to view the grove from the roadside or parking lots.

5.2 Visitor Profile

Ninety-five percent of visitors arrive by private vehicle and five percent on charter or tour buses. The average party size is 3.1 persons, with the average length of stay being 30 minutes. Eighty percent of visitors walk the MacMillan Trail (south) and 20 percent walk the Cedar Loop Trail (north).

Vehicle origin is as follows:

British Columbia	66%
Alberta	16%
Ontario	8%
Quebec	2%
Manitoba	2%
Saskatchewan	2%
Other Canada	1%
United States	3%
	100%

The small percentage of visitation by Americans may be explained by a prevalence of large trees in Washington, Oregon and California (i.e. the Redwood/Sequoia attraction).

Visitor book analysis indicates many offshore visitors, particularly from European countries, arrive at the park with friends or relatives.

5.3 Supply and Demand

Supply

When it comes to huge trees, MacMillan Provincial Park with Cathedral Grove is in a class of its own. While many provincial parks on Vancouver Island have large trees, there is no other easily accessible stand of old growth forest that approaches the attractiveness of Cathedral Grove.

Demand

MacMillan Provincial Park is an extremely important destination park for visitors to Vancouver Island. Daily during July and August, as many as 2,000 people may walk the trails and the present parking lots are full to capacity from 10:00 a.m. to nearly 4:00 p.m. One in every seven of the vehicles that passes through the park stops or pulls over.

Although the popularity of the park is most pronounced in the summer months, substantial use occurs throughout the year.

Use, however, has remained relatively constant even with increasing advertising of Pacific Rim National Park and promotion of the Parksville/ Qualicum area as a tourist destination area. Highway travel has declined in the last five years due to other influencing factors.

6.0 PLANNING ISSUES

Two issues dominate the master plan for MacMillan Provincial Park.

The first issue is the extent of vegetation management. Little is understood of old growth stand dynamics in this area. Consequently, various opinions on management actions, centring on soil, understorey and silvicultural enhancement, abound within the overall context of protecting the stand.

The second issue concerns the type, location and level of park development. The twin, conflicting objectives of the park, to protect and present the outstanding example of old growth forest, have resulted in the existing primitive facilities and unorganized parking area adjacent to Highway 4. The obvious reluctance to create a parking area and associated facilities in the stand because of the potential impact has created an unsafe access and egress situation along a 60 km/hour provincial highway.

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